

Variation in *Tecomanthe speciosa* W.R.B. Oliver (BIGNONIACEAE) from the Three Kings Islands, New Zealand

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ABSTRACT

Variation in isolated plants of *Tecomanthe speciosa* W. R. B. Oliv. reflects environmental conditions. Two seedlings show more vigour than cuttings grown under similar conditions.

One plant only of *Tecomanthe speciosa* was found on Great Island in the Three Kings group by Dr. G. T. S. Baylis in 1945. *Tecomanthe speciosa* was named by Oliver in 1948 and the fruit, seed and seedling were described by Hunter in 1958.

A plant grown from a cutting was established at the Mount Albert Research Station, D.S.I.R., Auckland, New Zealand, in 1951, and will be referred to here as the Mount Albert parent. This plant produced flowers for the first time in May 1954 and again in 1955 and 1956. The flowers were hand-pollinated each year. Fruit pods did not develop in 1954 or 1955, but a cluster of 5 pods formed from flowers produced in 1956. The pods ripened in March 1957 and the seed germinated.

In August 1957, two plants, a seedling and a cutting struck from the Mount Albert parent, were set out 5 metres apart in a sheltered position facing North, in volcanic soil, at Mount Albert Research Station. In 1960, two further plants (one seedling and one cutting) were planted at the home of Dr. P. Fry, approximately 1 mile from the Mount Albert Research Station. These plants were grown in volcanic soil, 3 metres apart, on a trellis against an exposed North wall of the house.

No further pairs have been planted under the same environmental conditions, but the following isolated plants derived from the Mount Albert parent have been examined:

Origin	Locality	Environmental conditions	Soil
Seedling	Mr. E. Richardson, Rangikapiti Road, Mangonui	Enclosed bed on summit of exposed ridge	Pipeclay
Seedling	Mr. F. Brent, Old Mill Road, Mangonui	Sheltered, warm, northerly slope	Decayed conglomerate
Cutting	Auckland Domain	Sheltered, warm, northerly slope	Volcanic ash
Cutting	University of Auckland	Sheltered, cold, south wall	Volcanic ash

The age of the plant at first flowering varies, as the following dates show:

Plant	Year planted out	Year flowering began
Seedling at Mt. Albert	1957	1962
Cutting at Mt. Albert	1957	1960
Seedling at Dr. Fry's home	1960	Not flowered
Cutting at Dr. Fry's home	1960	Not flowered
Seedling at Mr. Richardson's	1957	1961
Seedling at Mr. Brent's	1958	1962
Cutting at Auckland Domain	1956	1959
Cutting at University	1955	1959

Flowering extends from April to September.

Observations of the habit and measurements of leaves and flowers of these plants suggest that those raised from seed grow much more vigorously than those raised from cuttings. Measurements of the following characters of the two plants at Mount Albert were made in May 1962:

1. *Calyx length* — measured from top of pedicel to rim of calyx tube.
2. *Corolla length* — measured from base of tube to tip of two terminal lobes of the upper lip. Flowers were compared at the height of the flowering period, and only mature flowers were measured. The flowers were considered to be mature when fully expanded, and when the tube parted readily from calyx and ovary.
3. *Corolla width* — measured at tips of two lateral lobes of upper lip.
4. *Leaflet length* — measured along main vein of terminal leaf blade.
5. *Leaflet width* — measured across terminal leaf blade at widest part. Allan (1961) described the leaves as "imparipinnately 3-5 — foliolate". Seven pinnate leaves occur on both seedling and cutting. The terminal leaflet was chosen for measurement as it appears to be unaffected by development of additional pinnae on the rhachis.
6. *Flower number* — counted on 10 clusters on each plant. Oliver (1948) described the inflorescence as "few-flowered". Hunter (1954) stated that the number of flowers varied from 10 to 27. Allan (1961) recorded the number as "up to 30". Seedling inflorescences had from 19 to 60, cutting inflorescences from 25 to 51 flowers.

Average measurements are listed in table 1, and individual measurements are given in the appendix.

Table 1

Flower and leaf measurements on a seedling and a cutting from the Mt. Albert parent plant, grown under similar environmental conditions at Mt. Albert Research Station.

	Seedling Mean	Cutting Mean	Significance of Difference
Calyx length	2.4 cm	2.3 cm	xxx
Corolla length	7.8 "	7.2 "	xxx
Corolla width	5.9 "	5.6 "	xx
Flower number	37	35	n.s.
Leaflet length	13.5 "	12.7 "	xxx
Leaflet width	8.5 "	8.2 "	x
	xxx — significant at $P = 0.001$		
	xx — " " $P = 0.01$		
	x — " " $P = 0.05$		
	n.s. — not significant		

Calyx length, corolla length and corolla width are averages from 10 clusters, totalling 100 flowers.

Flower number is the average from 10 clusters.

Leaflet length and width are averages from 100 terminal leaflets.

Statistical analyses were carried out by Dr. H. R. Thompson, Applied Mathematical Laboratory, D.S.I.R., Auckland, to whom we are indebted. The results in table 1 show significant differences in leaf and flower size between the two plants.

Since the pair of plants at Dr. Fry's home have not yet flowered, leaf measurements only are listed in table 2.

Table 2

Leaf measurements on a seedling and a cutting from the Mt. Albert parent plant, grown under similar environmental conditions at Dr. Fry's home.

	Seedling Mean	Cutting Mean	Significance of Difference
Leaflet length	10.5 cm*	9.2 cm**	xxx
Leaflet width	6.7 " *	6.3 " **	x
	* — averages from 51 terminal leaflets		
	** — " " 27 " "		

Since additional pairs of plants are not available, and individual plants produce only a few clusters of flowers at present, measurements of terminal leaflets of the other plants referred to above are listed in table 3.

Table 3

Leaf measurements of plants raised from seed or from cuttings and grown under different environmental conditions.

	Seedlings			Cuttings		
	Fry	Richardson	Brent	Fry	Domain	University
No. of leaflets	51	33	17	27	34	40
Average leaflet length	10.5	13.1	15.3 cm	9.2	10.0	10.8 cm
Average leaflet width	6.7	9.0	8.9 "	6.3	7.6	8.2 "

Owing to the very large environmental variation, there is not enough information in table 3 to show significant differences between seedlings and cuttings; but the results do not contradict the evidence of seedling vigour shown by tables 1 and 2.

CONCLUSION

It is possible that large leaves found on seedling plants are "juvenile leaves". At Mount Albert Research Station, and at Dr. Fry's home, seedling plants have larger, and possibly thinner leaves than cuttings grown under similar conditions. Apart from these differences, foliage of seedling plants does not differ from that of cuttings. Nevertheless, the suggestion does not account for variation in flower size.

It is well known to horticulturists that seedlings of some plants, e.g. apples, are more vigorous than cuttings. Usually this increase in vigour results from cross-fertilisation. In this case, increased vigour has developed in seedlings from a self-fertilised, presumably homozygous plant.

REFERENCES

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APPENDIX

Individual Measurements.

1. Floral measurements of the Seedling plant at Mt. Albert Research Station.

No. of inflorescences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
1	60	1	2.4	7.4	5.5
		2	2.4	7.9	5.8
		3	2.4	7.5	5.6
		4	2.3	7.6	5.8
		5	2.4	7.5	5.4
		6	2.4	8.0	6.0
		7	2.5	8.2	6.3
		8	2.4	7.7	6.0
		9	2.4	7.6	6.4
		10	2.4	7.6	6.1
		24.0	77.0	58.9	
2	27	1	2.4	8.1	6.1
		2	2.1	7.7	5.6
		3	2.5	8.2	6.3
		4	2.5	7.6	6.0
		5	2.4	7.9	6.5
		6	2.6	8.2	6.4
		7	2.5	7.5	6.0
		8	2.4	7.6	5.9
		9	2.5	8.3	6.1
		10	2.4	8.3	6.7
		24.3	79.4	61.6	
3	29	1	2.4	7.2	5.6
		2	2.4	7.6	6.0
		3	2.5	7.8	6.1
		4	2.5	7.6	5.8
		5	2.3	7.6	5.9
		6	2.4	7.9	6.0
		7	2.4	7.4	5.7
		8	2.4	7.5	5.8
		9	2.4	7.9	5.8
		10	2.5	8.1	5.9
		24.2	76.6	58.6	

No. of inflores- cences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
4	35	1	2.5	7.8	6.0
		2	2.3	7.7	5.5
		3	2.4	8.0	6.2
		4	2.5	8.1	6.2
		5	2.5	7.9	6.1
		6	2.5	7.9	6.0
		7	2.4	7.7	5.6
		8	2.3	7.6	5.0
		9	2.5	7.8	6.1
		10	2.5	7.5	6.1
			24.4	78.0	58.8
5	23	1	2.4	7.8	5.6
		2	2.4	7.9	6.3
		3	2.4	7.7	6.3
		4	2.3	7.7	5.7
		5	2.3	7.4	5.3
		6	2.4	8.2	6.2
		7	2.4	7.8	6.5
		8	2.4	8.1	6.3
		9	2.4	7.9	6.0
		10	2.3	7.8	6.5
			23.7	78.3	60.7
6	31	1	2.4	8.0	5.7
		2	2.3	8.3	5.8
		3	2.4	8.2	6.2
		4	2.4	7.4	5.8
		5	2.3	7.9	6.0
		6	2.3	8.0	6.1
		7	2.4	8.1	6.3
		8	2.3	7.9	6.2
		9	2.4	7.9	5.9
		10	2.2	7.2	5.3
			23.4	78.9	59.3
7	59	1	2.3	8.0	5.6
		2	2.4	8.1	6.2
		3	2.4	8.2	6.0
		4	2.4	8.0	6.1
		5	2.4	8.2	6.2
		6	2.4	8.5	6.4
		7	2.4	8.2	6.2
		8	2.4	8.1	6.1
		9	2.3	7.9	5.7
		10	2.4	8.1	6.1
			23.8	81.3	60.6
8	19	1	2.3	8.1	6.4
		2	2.3	7.4	5.1
		3	2.4	7.4	5.3
		4	2.3	8.2	6.5
		5	2.3	8.2	6.4
		6	2.3	7.5	5.8
		7	2.3	7.0	6.0
		8	2.3	8.1	5.8
		9	2.4	8.1	6.1
		10	2.3	7.7	5.9
			23.2	77.7	59.3

	No. of inflores- cences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
	9	56	1	2.3	7.4	5.8
			2	2.4	7.9	6.2
			3	2.3	7.4	5.2
			4	2.3	7.2	5.3
			5	2.2	7.0	5.0
			6	2.3	7.2	5.5
			7	2.2	7.2	5.5
			8	2.3	7.2	4.9
			9	2.3	7.6	6.0
			10	2.3	7.3	5.5
				22.9	73.4	54.9
	10	30	1	2.4	8.0	5.8
			2	2.4	8.1	5.7
			3	2.3	8.2	5.9
			4	2.3	8.1	5.8
			5	2.3	7.7	6.0
			6	2.2	7.8	5.6
			7	2.4	8.1	6.2
			8	2.4	8.2	6.2
			9	2.3	7.8	5.7
			10	2.3	7.9	5.9
				23.3	79.9	58.8
Total	10	369	100	237.2	780.5	591.5
Mean	—	37	—	2.4	7.8	5.9

2. Floral measurements of the Cutting at Mt. Albert Research Station.

	No. of inflores- cences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
	1	49	1	2.2	7.1	5.6
			2	2.3	7.9	6.0
			3	2.3	7.3	5.6
			4	2.3	7.6	5.6
			5	2.3	7.9	5.7
			6	2.2	7.5	5.6
			7	2.5	7.8	6.0
			8	2.3	7.9	5.6
			9	2.1	7.1	5.6
			10	2.3	7.5	5.5
				22.8	75.6	56.8
	2	51	1	2.4	7.0	5.7
			2	2.2	6.9	5.7
			3	2.2	6.8	5.8
			4	2.2	6.9	5.5
			5	2.3	7.1	5.5
			6	2.3	7.2	5.7
			7	2.3	7.1	5.5
			8	2.4	7.0	5.0
			9	2.3	6.9	5.5
			10	2.2	6.7	5.0
				22.8	69.6	54.9

No. of inflores- cences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
3	28	1	2.4	7.0	4.9
		2	2.4	7.4	5.8
		3	2.3	7.1	5.0
		4	2.1	6.5	5.0
		5	2.3	6.7	4.9
		6	2.2	6.4	5.5
		7	2.3	6.4	5.1
		8	2.0	6.6	4.5
		9	2.2	6.6	4.8
		10	2.4	7.3	5.8
			22.6	68.0	51.3
4	29	1	2.2	6.6	5.4
		2	2.1	6.9	5.5
		3	2.1	7.4	5.4
		4	2.1	6.6	4.9
		5	2.2	7.0	5.9
		6	2.2	6.4	4.9
		7	2.2	6.5	5.3
		8	2.3	7.4	5.7
		9	2.1	6.1	5.0
		10	2.2	6.6	5.4
			21.7	67.5	53.4
5	34	1	2.3	7.2	5.3
		2	2.2	7.1	5.7
		3	2.4	7.4	5.5
		4	2.2	7.3	5.6
		5	2.3	7.3	5.8
		6	2.3	7.3	5.5
		7	2.3	7.6	6.0
		8	2.2	7.5	5.5
		9	2.3	7.4	5.8
		10	2.4	7.5	6.1
			22.9	73.6	56.8
6	25	1	2.2	7.2	5.4
		2	2.3	6.8	5.0
		3	2.2	6.7	4.8
		4	2.2	6.8	4.6
		5	2.3	6.9	4.9
		6	2.2	6.6	5.0
		7	2.3	6.7	4.9
		8	2.3	6.9	5.0
		9	2.4	6.6	4.9
		10	2.3	7.8	5.0
			22.7	69.0	49.5

	No. of inflores- cences measured	No. of flowers per cluster	No. of mature flowers measured	Calyx length	Corolla length	Corolla width
	7	26	1	2.3	7.0	5.7
			2	2.2	7.1	5.0
			3	2.3	7.4	5.9
			4	2.2	6.9	5.2
			5	2.2	7.4	5.8
			6	2.4	7.4	5.5
			7	2.3	7.6	6.1
			8	2.3	7.9	6.0
			9	2.2	7.2	5.8
			10	2.4	7.1	5.0
				22.8	73.0	56.0
	8	36	1	2.3	7.1	5.8
			2	2.3	7.5	5.5
			3	2.3	7.1	5.1
			4	2.4	8.1	6.3
			5	2.3	7.3	5.8
			6	2.3	7.0	5.3
			7	2.3	7.1	5.2
			8	2.4	7.4	6.4
			9	2.4	7.5	6.2
			10	2.3	7.4	5.5
				23.3	73.5	57.1
	9	31	1	2.4	7.4	6.0
			2	2.3	7.5	5.9
			3	2.2	7.4	6.0
			4	2.2	7.4	6.1
			5	2.2	7.2	6.0
			6	2.4	7.3	5.6
			7	2.2	7.3	5.9
			8	2.1	5.8	5.1
			9	2.3	7.0	5.8
			10	2.2	7.3	5.5
				22.5	71.6	57.9
	10	38	1	2.3	7.6	6.5
			2	2.4	7.8	6.0
			3	2.3	7.9	6.5
			4	2.3	7.5	6.5
			5	2.3	7.9	6.0
			6	2.4	7.8	6.2
			7	2.3	7.5	6.5
			8	2.3	7.4	5.9
			9	2.3	7.4	5.8
			10	2.3	7.3	5.9
				23.2	76.1	61.8
Total	10	347	100	227.3	717.5	555.5
Mean	-	35	-	2.3	7.2	5.6

3. Leaflet measurements of the Seedling at Mt. Albert Research Station.

No.	Length	Width	No.	Length	Width
1	16.2	10.4	51	11.7	6.7
2	12.2	7.5	52	13.3	7.1
3	15.8	9.6	53	12.5	8.0
4	15.4	9.2	54	12.3	7.7
5	12.5	8.0	55	13.2	8.4
6	15.4	11.0	56	14.7	9.4
7	12.6	8.5	57	13.5	7.9
8	13.5	9.2	58	13.4	8.1
9	12.2	7.1	59	12.9	8.6
10	12.5	8.1	60	12.5	6.7
11	15.0	9.4	61	12.7	7.5
12	12.8	7.2	62	12.3	7.3
13	16.3	10.3	63	13.4	8.3
14	12.8	8.3	64	14.8	9.9
15	14.7	8.3	65	11.2	7.3
16	18.1	11.1	66	12.3	7.4
17	15.2	7.8	67	16.4	9.8
18	12.9	8.9	68	12.7	8.1
19	13.6	9.4	69	11.1	6.1
20	13.4	8.8	70	15.0	9.7
21	12.8	8.2	71	11.7	9.6
22	12.2	8.1	72	15.7	9.7
23	13.6	8.4	73	13.8	8.3
24	16.6	10.5	74	11.5	7.8
25	13.5	7.6	75	13.0	8.2
26	13.8	9.7	76	13.8	9.2
27	17.6	9.0	77	16.3	9.8
28	13.8	7.9	78	12.5	7.6
29	13.3	8.3	79	15.6	9.4
30	14.7	8.4	80	13.7	8.5
31	16.1	10.0	81	11.8	7.0
32	12.5	7.8	82	14.2	9.7
33	12.0	7.1	83	12.8	7.2
34	18.4	11.6	84	14.8	8.9
35	13.8	7.3	85	13.1	8.9
36	12.6	7.8	86	15.3	9.5
37	16.8	10.2	87	13.0	9.2
38	12.3	8.0	88	13.0	7.9
39	15.1	9.8	89	14.9	9.1
40	12.1	8.3	90	15.0	10.3
41	13.7	8.0	91	13.0	9.0
42	11.8	8.8	92	11.3	7.9
43	11.4	8.0	93	12.8	7.6
44	14.0	8.0	94	11.8	7.1
45	11.9	7.7	95	12.2	8.0
46	11.6	8.3	96	13.2	8.2
47	11.3	8.5	97	12.6	7.7
48	13.2	8.5	98	13.7	7.0
49	13.2	8.2	99	12.2	7.0
50	12.8	8.7	100	12.5	7.5
			Total	1354.3	847.6
			Mean	13.5	8.5

4. Leaflet measurements of the Cutting at Mt. Albert Research Station.

No.	Length	Width	No.	Length	Width
1	12.8	8.0	51	11.4	7.9
2	13.9	9.1	52	12.3	8.8
3	12.2	7.7	53	16.0	9.4
4	12.2	7.9	54	12.0	8.2
5	11.9	7.2	55	14.0	8.7
6	10.9	6.8	56	12.4	8.3
7	13.5	9.1	57	16.3	11.0
8	11.0	7.4	58	12.5	10.2
9	12.4	7.0	59	14.4	8.8
10	16.8	10.6	60	13.7	8.5
11	13.1	7.9	61	14.5	9.2
12	11.8	7.7	62	13.2	8.1
13	10.6	7.0	63	13.1	8.7
14	13.2	9.0	64	12.8	8.1
15	11.9	7.1	65	12.7	7.9
16	10.8	6.8	66	11.8	7.6
17	13.3	7.9	67	14.6	9.0
18	12.9	8.5	68	13.0	8.3
19	10.5	6.7	69	13.2	8.2
20	13.3	9.0	70	12.4	8.7
21	12.5	8.5	71	11.5	8.2
22	13.0	7.0	72	11.7	7.4
23	16.0	10.1	73	11.5	8.3
24	9.5	6.9	74	12.2	8.0
25	12.4	8.3	75	15.0	10.3
26	11.2	6.4	76	15.1	9.1
27	10.7	7.3	77	12.2	8.0
28	12.8	8.5	78	13.3	8.0
29	11.6	7.3	79	12.6	8.1
30	16.1	10.0	80	11.1	6.7
31	15.6	9.9	81	15.4	9.2
32	12.4	7.8	82	13.3	7.6
33	10.9	6.2	83	12.8	8.3
34	10.7	8.5	84	13.3	7.8
35	11.9	7.7	85	14.4	9.8
36	14.8	8.3	86	13.1	8.0
37	10.7	7.0	87	14.3	9.4
38	12.0	6.5	88	11.9	8.8
39	13.5	9.1	89	12.4	7.4
40	10.0	5.8	90	13.5	9.5
41	10.8	5.8	91	12.8	8.3
42	12.1	6.9	92	12.7	7.9
43	12.2	7.5	93	12.7	8.2
44	11.0	6.9	94	13.7	8.8
45	12.4	8.2	95	13.2	7.8
46	15.2	9.9	96	13.0	8.4
47	11.6	8.5	97	11.6	7.9
48	11.8	7.3	98	11.8	7.5
49	11.1	8.4	99	11.9	7.5
50	14.2	8.8	100	13.0	8.1
			Total	1273.0	815.6
			Mean	12.7	8.2

5. Leaflet measurements of the Seedling at Dr. P. Fry's home.

No.	Length	Width	No.	Length	Width
1	11.0	8.5	27	10.0	6.3
2	10.5	5.8	28	10.1	6.4
3	10.6	6.4	29	8.8	5.5
4	10.7	6.4	30	11.6	7.5
5	11.7	7.5	31	10.4	6.4
6	11.3	6.7	32	8.4	4.9
7	10.5	7.6	33	11.4	8.2
8	13.4	8.5	34	11.2	7.5
9	11.7	7.3	35	10.7	6.7
10	12.0	7.1	36	11.3	7.3
11	11.2	7.4	37	9.2	6.2
12	8.8	6.5	38	10.3	6.2
13	11.3	7.4	39	9.9	5.4
14	11.3	7.5	40	9.2	6.6
15	9.5	6.2	41	11.8	7.5
16	11.9	7.4	42	8.7	5.5
17	12.8	7.5	43	9.4	5.8
18	10.6	6.4	44	11.2	7.6
19	8.5	4.9	45	10.8	6.5
20	11.8	7.2	46	12.2	7.7
21	8.9	6.0	47	12.6	8.1
22	8.9	6.5	48	10.0	6.0
23	9.4	6.8	49	9.5	6.3
24	8.3	6.3	50	10.4	6.4
25	8.7	5.3	51	9.1	6.9
26	9.5	5.5			
			Total	533.0	342.0
			Mean	10.5	6.7

6. Leaflet measurements of the Seedling at Mr. Brent's home.

No.	Length	Width	No.	Length	Width
52	13.5	7.8	61	14.4	8.7
53	17.3	9.0	62	14.3	9.7
54	18.9	9.8	63	16.2	9.7
55	16.0	9.0	64	11.9	6.8
56	14.2	7.5	65	13.1	7.5
57	17.6	12.8	66	12.2	7.6
58	18.4	9.6	67	14.3	10.0
59	15.3	7.7	68	11.4	7.4
60	20.4	10.9			
			Total	259.4	151.5
			Mean	15.3	8.9

7. Leaflet measurements of the Seedling at Mr. Richardson's home.

No.	Length	Width	No.	Length	Width
69	17.2	12.0	86	16.6	13.5
70	11.3	7.9	87	13.7	9.5
71	12.5	9.3	88	11.7	8.5
72	14.3	8.4	89	12.0	8.8
73	15.9	10.9	90	10.8	6.8
74	11.6	9.0	91	10.7	7.2
75	10.6	7.5	92	8.6	6.0
76	17.6	12.1	93	11.9	8.2
77	13.4	8.2	94	10.2	6.4
78	12.4	8.3	95	12.0	8.1
79	14.2	9.2	96	17.0	11.2
80	17.1	11.2	97	12.4	6.3
81	13.2	9.3	98	10.6	5.9
82	14.5	11.9	99	17.4	12.2
83	12.7	8.1	100	12.6	9.1
84	10.4	6.5	101	11.8	9.0
85	12.9	9.6			
			Total	431.8	296.2
			Mean	13.1	9.0

8. Leaflet measurements of the Cutting at Dr. P. Fry's home.

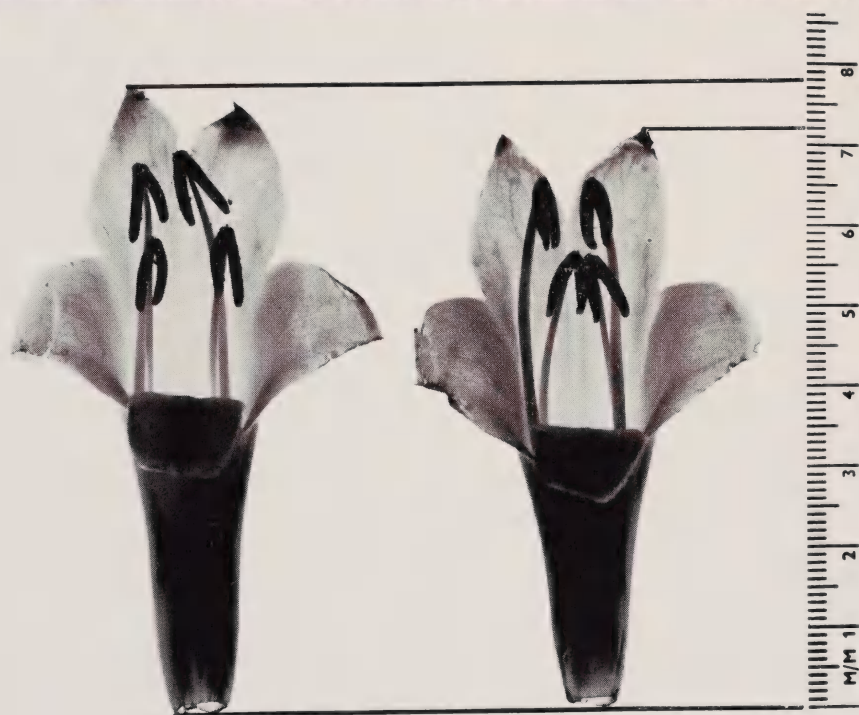
No.	Length	Width	No.	Length	Width
1	9.9	6.9	15	8.3	6.2
2	8.8	5.9	16	10.2	6.8
3	10.6	7.4	17	8.7	6.3
4	9.9	7.3	18	10.1	6.5
5	10.1	6.7	19	7.3	5.3
6	9.6	6.2	20	7.4	5.6
7	8.6	6.2	21	8.8	6.3
8	9.2	6.0	22	9.9	6.9
9	11.2	8.0	23	8.9	5.9
10	9.7	6.5	24	7.8	5.1
11	10.7	7.8	25	7.0	4.8
12	10.5	6.5	26	7.6	5.3
13	10.8	6.5	27	7.6	4.9
14	10.1	6.7			
			Total	249.3	170.5
			Mean	9.2	6.3

9. Leaflet measurements of the Cutting at the Auckland Domain.

No.	Length	Width	No.	Length	Width
28	9.3	7.7	45	10.1	7.0
29	8.8	7.2	46	10.7	7.0
30	7.6	5.8	47	11.5	9.2
31	8.0	5.9	48	9.9	6.8
32	7.9	5.8	49	11.9	9.7
33	8.4	6.0	50	8.8	6.9
34	10.7	7.8	51	10.7	7.9
35	10.5	8.9	52	7.1	5.6
36	12.0	9.7	53	10.2	8.2
37	9.7	8.0	54	9.7	6.8
38	9.0	6.2	55	12.4	8.8
39	10.1	7.7	56	9.0	7.5
40	10.2	7.8	57	9.3	7.8
41	10.2	8.1	58	10.8	8.7
42	9.1	6.2	59	11.7	10.0
43	7.8	6.0	60	11.5	9.5
44	10.8	6.9	61	13.9	10.7
			Total	339.3	259.8
			Mean	10.0	7.6

10. Leaflet measurements of the Cutting, University of Auckland.

No.	Length	Width	No.	Length	Width
62	6.5	6.1	82	12.4	8.7
63	9.6	7.5	83	11.3	8.7
64	9.7	8.0	84	9.9	7.7
65	10.2	7.0	85	11.6	8.7
66	12.8	8.7	86	12.3	9.2
67	10.7	8.5	87	10.7	7.7
68	11.4	8.9	88	11.9	9.2
69	12.5	8.8	89	9.9	7.6
70	9.0	6.6	90	11.8	9.0
71	7.5	5.7	91	12.0	8.4
72	12.6	8.8	92	11.2	8.8
73	12.1	8.5	93	10.1	7.5
74	11.6	8.2	94	12.5	9.2
75	11.0	10.3	95	11.5	8.2
76	10.9	9.4	96	9.5	8.5
77	11.3	8.7	97	11.5	9.6
78	9.2	7.3	98	11.4	7.6
79	10.6	7.7	99	9.6	7.9
80	10.8	7.8	100	9.4	7.4
81	9.7	6.8	101	10.6	7.6
			Total	430.8	326.5
			Mean	10.8	8.2



Tecomnanthe speciosa W. R. B. Oliv.

1. Inflorescence with mature flowers (corolla tube shed), seven and five pinnate leaves.
2. Corolla tubes of seedling and cutting plant. (Mt. Albert seedling left, cutting right).

Mt. Albert Research Station,
S. Rumsey photos.